depositing a second insulating film so as to partially fill the element isolation groove by using a vapor deposition method;

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forming an embedded layer on the second insulating film so as to completely fill the element isolation groove; and

forming a third insulating film on the embedded layer using the vapor deposition method,

wherein the step of forming the element isolation groove includes another step of forming an other element isolation groove adjacent to the element isolation groove in a region other than an element formation region of the semiconductor layer, and

wherein in the step of forming the third insulating film, the third insulating film is formed such that the element isolation groove and the other element isolation groove are continuously covered.